



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection – Drinking Water Program
2007 Public Water Supply Annual Statistical Report
 For Community Public Water Systems Regulated by the Water Management Act
 Reporting Period 1/1/2007 – 12/31/2007

<u>COMMUNITY</u>
PWSID#:
Name:
City/Town:

A Certification

Please use the tab key to move forward.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision, that I am authorized to complete these forms, and that the information I have entered herein is true, accurate, and complete to the best of my knowledge and belief.



Name of Certifying Person _____ Title _____

Phone Number _____ Fax Number _____



Signature of Certifying Person _____ Date (mm/dd/yyyy: please type in the slash in between month, date, and year.) _____

B Public Water Supply Information

If you press the enter or return key, please press the backspace key until the form returns to normal.

- Please review and correct the information shown on your Comprehensive Report. The Comprehensive Report was enclosed with the mailed copy of this form.
- Please review the Treatment Plant section on the Comprehensive Report. Note that the physical address of the treatment plant is required. Failure to provide this address will result in this form being considered incomplete and enforcement action may be taken.
- Physical addresses on the Comprehensive Report must not contain PO Boxes.

☐ Check this box if there are no changes to your Comprehensive Report

☐ Check this box if you made changes to your Comprehensive Report

Check Applicable Statement:

☐ I have made substantial modifications to my system's source(s), treatment or distribution system. See enclosed list describing substantial modifications, which require a permit in accordance with 310 CMR 22.04(1). I have attached a list of all substantial modifications.

☐ I have made no substantial modifications to my system's source(s), treatment or distribution system

1. Public Water System: (This address must be for the party legally responsible for regulatory compliance.)

☐ No Change

PWS mailing address _____

City/Town _____ State (please use 2 letter abbreviation) _____ Zip Code _____

Phone Number _____ Fax Number (if available) _____

http:// _____
 Web Site Address of PWS (if available)

2. Owner Information:

Owner's Name (if not municipal): _____ Phone Number _____

3. Primary Contact: ☐ No Change

Name (First, Last) • one name only • _____ Phone Number _____

Email Address (For Emergency Purposes) _____

If the mailing address is different from the one shown on the Comprehensive Report (enclosed with the mailing of this form) please fill in the mailing address.



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B Public Water Supply Information (cont.)

4. Certified Drinking Water Operator employed by the PWS:* ☐ No Change

Attach a list of all additional facility operators and corresponding license numbers

Primary Certified Operator – Distribution: Name	Grade	License Number	Status: OIT <input type="checkbox"/> Full <input type="checkbox"/>
Secondary Certified Operator – Distribution: Name	Grade	License Number	Status: OIT <input type="checkbox"/> Full <input type="checkbox"/>
Secondary Certified Operator – Distribution: Name	Grade	License Number	Status: OIT <input type="checkbox"/> Full <input type="checkbox"/>
Secondary Certified Operator – Distribution: Name	Grade	License Number	Status: OIT <input type="checkbox"/> Full <input type="checkbox"/>
Primary Certified Operator – Treatment: Name	Grade	License Number	Status: OIT <input type="checkbox"/> Full <input type="checkbox"/>
Secondary Certified Operator – Treatment: Name	Grade	License Number	Status: OIT <input type="checkbox"/> Full <input type="checkbox"/>
Secondary Certified Operator – Treatment: Name	Grade	License Number	Status: OIT <input type="checkbox"/> Full <input type="checkbox"/>
Secondary Certified Operator – Treatment: Name	Grade	License Number	Status: OIT <input type="checkbox"/> Full <input type="checkbox"/>

* Note: you must have certified operators in accordance with 310 CMR 22.11B

5. Primary Certified Operator Contact Information:

Name	Phone Number	E-Mail Address
Mailing Address	Town/City	State Zip Code

6. If you use a contract certified operator, does your system have a signed Public Water System Certified Operator Compliance Notice approved by the MassDEP? ☐ Yes ☐ No

Attach a list of all additional staff to be contacted in the event of an emergency

7. Names of Water Commissioners/Selectmen/Trustees/Association Board Members (if applicable). Please attach an organizational chart, if available.

Name of Chairman	Phone Number	Title
Name	Phone Number	Title
Name	Phone Number	Title

8. Federal Employment Identification Number (FEIN):

9. Is this system a not-for-profit organization? ☐ Yes ☐ No

If yes, indicate Tax Exempt code (e.g., 501C):



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B Public Water Supply Information (cont.)

10. Population Served (Daily Average): ☐ No Change
 Winter Population (October – March): _____
 Summer Population (April – September): _____

By what method was the population figured? Census Type: ☐ City/Town Annual ☐ Federal (10 year)
 Other Method: _____

11. Distribution Meter information:
 a. Percentage of distribution system metered: _____ %
 b. Are all publicly owned buildings metered? ☐ Yes ☐ No
 c. If No, what percent are? _____ %

12. System Information: ☐ No Change
 a. Number of Service Connections: _____
 (from Table D6)
 b. Finished Water Storage Capacity in Million Gallons (MG): _____
 [Conversion factor is (# of gallons)/(1,000,000)= MG]

13. Emergency Response Actions:
 a. Check the applicable statements:
☐ My system has completed an ERP
 (DO NOT submit your ERP to MassDEP. The MassDEP will review the ERP during your next sanitary survey.)
☐ I have made changes to the ERP (attach copies of all changes.)
☐ I have made no changes to the ERP.
 b. Does your system have an Emergency Response annual training plan? ☐ Yes ☐ No
 If Yes, please attach a copy of the plan. Describe the training performed during the reporting period, including the types of training, the date(s) of training, and # of staff and local officials trained on each date and their job titles.
 c. Is your system registered for the Health and Homeland Alert Network (HHAN)? ☐ Yes ☐ No
 d. Has your system signed the agreement and joined the Massachusetts Water and Wastewater Agency Response Network? ☐ Yes ☐ No
 e. How often does your system test the following?
 Alarms: ☐ Monthly ☐ Annually ☐ Other: _____
 Interlocks: ☐ Monthly ☐ Annually ☐ Other: _____
 Back-up power sources: ☐ Monthly ☐ Annually ☐ Other: _____
 f. List and describe all Level 3 or higher ER incidents during the reporting period.

Date of ER incident	Level	Description



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B Public Water Supply Information (cont.)

14. Emergency Directory Update:
 Please submit an updated Emergency Response Plan Directory with this Annual Statistical Report.
 (Attachment 1 – “Emergency Response Plan Directory” is enclosed with this form.)
15. Do you have an antenna or other appurtenance (not needed for drinking water purposes) attached to your storage tank(s)?
☐ Yes ☐ No

If Yes, list antennae or other appurtenances, owner(s) names, and the date approved by your system:

Antennae or Appurtenances	Owner Name	Date (mm/dd/yyyy)
Antennae or Appurtenances	Owner Name	Date (mm/dd/yyyy)
Antennae or Appurtenances	Owner Name	Date (mm/dd/yyyy)

C Cross Connection Control Program

1. Cross Connection Control Program Coordinator:

Name	Phone Number
------	--------------

Mailing Address (if different from water system)

2. Cross-Connection Surveyor responsible for review and approval of design data sheets and plans for proposed new installations of reduced pressure backflow preventers (RPBPs), double check valve assemblies (DCVAs), and air gap separations with tank and pump arrangements in accordance with 310 CMR 22.22(4)(b):

Name	MA Cert. #	Phone Number
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Mailing Address (if different from water system)

3. Have you surveyed all commercial, industrial, institutional and municipal facilities within your service area for cross connection(s)? ☐ Yes ☐ No

If Yes, when was the cross connection survey completed?

Date (mm/dd/yyyy)

If No, when do you expect to finish the survey?

Date (mm/dd/yyyy)

4. Are there any cross-connection(s) within your system protected by: RPBP: ☐ Yes ☐ No
 DCVA: ☐ Yes ☐ No

If the answer is No to both question go to question 13



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C Cross Connection Control Program (cont.)

Table C1 Summary of Facilities Surveyed

5. Complete the following table summarizing types and numbers of facilities surveyed through 2007.

Type of Facility	Total # of Facilities Served by PWS A	Total # of Facilities Surveyed to Date B	# of Facilities Remaining to be Surveyed (A – B)	# of Facilities Surveyed in 2007
Commercial				
Industrial				
Institutional				
Municipal				

Table C2 Summary of Installed Devices and Assemblies

6. Complete the following table summarizing types and numbers of RPBPs and DCVAs installed in each of the four types of facilities.

Type of Facility	RPBP		DCVA	
	# of devices installed in 2007	Total # of devices	# of assemblies installed in 2007	Total # of assemblies
Commercial				
Industrial				
Institutional				
Municipal				

Attached a list of ALL registered cross-connections that are being protected by an RPBP or DCVA. The list must contain at a minimum the following information: owner/business name, Cross Connection ID#, types of protection (RPBP or DCVA), brand, model, serial # and exact location within the facility.

Note: This Information is required; failure to submit a list constitutes a violation of 310 CMR 22.22 and may cause the department to take enforcement action against the system. The issuance of the MassDEP's permit letter will be held until such list is provided.

Table C3 Backflow Preventer Testing Program Summary

7. Provide information on the testing performed in 2007 by the type of device/assembly.

Type of Protection	# of Initial tests	# of Routine tests	# of Failures	# of Repairs & Re-tests
RPBP				
DCVA				

Be aware: RPBPs are required to be tested semi-annually and DCVAs are required to be tested annually.

8. What is the maximum time allowed to protect a cross connection after the discovery of a violation?
Check one.

☐ 14 days

☐ 30 days

☐ 90 days

☐ Greater than 90 days

9. Do you have a fully implemented active cross-connection educational program directed toward residential users?

☐ Yes

☐ No



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C Cross Connection Control Program (cont.)

10. Do you have a fully implemented educational program for specific users (ex. Industrial, Commercial, Institutional and Municipal)? ☐ Yes ☐ No

If Yes, please list the types of users targeted through your education program.(check all that apply):

☐ Industrial ☐ Commercial ☐ Institutional ☐ Municipal

11. Does your system have an atmospheric vacuum breaker (hose bib) program for your customers?

☐ Yes ☐ No

If No, do you plan to institute one in the future? ☐ Yes ☐ No

12. Does your system have a local ordinance, by-law or policy statement on cross-connection control?

☐ Yes ☐ No

If YES, please provide a copy to: MassDEP Boston office, 1 Winter Street, 5th floor, Boston, MA 02108
 Attn: Otavio DePaula-Santos

13. Does your water system have a containment policy? ☐ Yes ☐ No

Containment policy means ALL service connections have a device installed at the meter. Containment protects the water main by isolating each facility independently of its activity (residential, commercial, industrial, or municipal).

14. Did your system use the services of a third party/consultant for the implementation of your Cross-connection Control Program or a portion of it? ☐ Yes ☐ No If Yes, please provide:

Attach a separate sheet if necessary.

Name of the MA Certified Surveyor &/or Tester	MassDEP Certification ID #	Expiration Date
Name of the MA Certified Surveyor &/or Tester	MassDEP Certification ID #	Expiration Date

15. Has there been a cross-connection incident in your water system this year? ☐ Yes ☐ No

If Yes, please provide information below: (Use a separate sheet if necessary)

Date & Time (mm/dd/yyyy hh:mm am/pm)	Location
Brief Description	



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D Water Production & Consumption Information

Table D1 FINISHED Water Production and Consumption Summary for Last Year (2007):

Conversion factor is (# cubic ft) x (7.481) = (# of gallons)

As of 12/31/2001 all PWSs were required to be metered, in compliance with 310 CMR 22.04(6).

Month	(1) Amount of finished water from own sources	(2) Amount of finished water purchased from other systems	(3) Amount of finished water sold to other systems	Net finished water that entered your distribution system (1) + (2) – (3) = Net
Units (check one)	<input type="checkbox"/> : Gallons (GAL) or <input type="checkbox"/> : Million Gallons (MG)	<input type="checkbox"/> : GAL or <input type="checkbox"/> : MG	<input type="checkbox"/> : GAL or <input type="checkbox"/> : MG	<input type="checkbox"/> : GAL or <input type="checkbox"/> : MG
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				
TOTAL				
Maximum Daily Finished Water Consumption:			*(Enter in Table G11)	
Volume:	<input type="checkbox"/> GAL or <input type="checkbox"/> MG	Date:	(mm/dd/yyyy)	

An explanation of the difference between tables D1 and D2 is available in the Instructions.

Table D2 RAW Water Production and Consumption Summary for Last Year (2007):

☐ Same as finished water (it is not necessary to complete Table D2 if same volumes as Table D1)

Month	(1) Amount of raw water pumped from own sources	(2) Amount of raw water purchased from other systems	(3) Amount of raw water sold to other systems	Net raw Water Consumption (1) + (2) – (3) = Net
Units (check one)	<input type="checkbox"/> : GAL or <input type="checkbox"/> : MG	<input type="checkbox"/> : GAL or <input type="checkbox"/> : MG	<input type="checkbox"/> : GAL or <input type="checkbox"/> : MG	<input type="checkbox"/> : GAL or <input type="checkbox"/> : MG
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				
TOTAL				
Maximum Daily Raw Water Consumption:				
Volume:	<input type="checkbox"/> GAL or <input type="checkbox"/> MG	Date:	(mm/dd/yyyy)	



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D Water Production & Consumption Information (cont.)

Table D3 Summary of Treatment Plant Losses (complete only if finished water volume is less than raw)

☐ No treatment plant losses (not applicable)

Treatment Plant ID:				
Total Raw Water into treatment plant in 2007 (raw pumped + raw purchased – raw sold):				
Total Finished Water from treatment plant in 2007:	-			
Total Water Lost to Treatment Process in 2007:	=			
Briefly describe the fate of the waste product (slurry or sludge) produced by your treatment process (discharge to sewer, groundwater discharge, settling lagoons, re-circulate back into treatment plant, etc.):				

Table D4 Summary of Water Purchased or Sold

Purchased Water

System Name	PWS ID#	Total Volume Purchased (MG)	Water Type
			<input type="checkbox"/> : Raw or <input type="checkbox"/> Finished
			<input type="checkbox"/> : Raw or <input type="checkbox"/> Finished
			<input type="checkbox"/> : Raw or <input type="checkbox"/> Finished
			<input type="checkbox"/> : Raw or <input type="checkbox"/> Finished

Sold Water

System Name	PWS ID#	Total Volume Sold (MG)	Water Type
			<input type="checkbox"/> : Raw or <input type="checkbox"/> Finished
			<input type="checkbox"/> : Raw or <input type="checkbox"/> Finished
			<input type="checkbox"/> : Raw or <input type="checkbox"/> Finished
			<input type="checkbox"/> : Raw or <input type="checkbox"/> Finished

Table D5 Percentage of Source Types (must add up to 100%)

Ground Water	Surface Water	Purchased Ground	Purchased Surface
%	%	%	%



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D Water Production & Consumption Information (cont.)

Table D6 Metered Finished Water Consumption by Service Type

Please complete the table below as accurately as possible. The information about Service Type is required for Federal drinking water protection programs. Definitions of service types are in the ASR Instructions on our website.

	Service Type	# of service connections	Metered Amount (MGY)	% of Total Metered Use
Residential	Residential Area			
	Subdivision			
	Homeowners Association (e.g. condos)			
	Mobile Home Park (principal residence)			
	Secondary Residences			
	Mobile Home Park (non-primary residence)			
	Other Residential Area			
	Residential Total:			-----
Residential Institutions	Residential Institutions (prisons, mental facilities, nursing & rest homes, universities, colleges, dormitories):			
Non-Residential Institutions	Medical Facility			
	Schools (includes K-12)			
	Day Care Center			
	Summer Camp			
	Non-Residential Institutions Total:			-----
Commercial Note: Some towns have included types of multi-family housing in the commercial category - these must be included in the appropriate residential category.	Trans-ient Com-mercial	Service Station		
		Restaurant		
		Highway Rest Area		
		Hotel/Motel		
		Other Transient Area		
	Non-Trans-ient Com-mercial	Retail		
		Dispenser		
		Interstate Carrier		
		Water Bottler		
		Wholesaler		
		Other Non-Transient Area		
	Commercial Total:			-----
Agricultural	Includes horticultural nursery, cranberry growers, farms & other agriculture:			
Industrial	Includes industry, manufacturing and power plants:			
Recreational	Includes ski areas, golf courses & other recreational areas:			
Other	Municipality (metered municipal use)			
	Sanitary Improvement District			
	Other Area			
	Other Total:			-----
System Total	SYSTEM TOTAL METERED USE:		(Enter in Table G11)	100

This table is only for reporting metered, recorded water uses. This table is not for reporting non-metered confidently estimated municipal use such as fire fighting or hydrant flushing. Confidently estimated non-metered municipal uses are reported in Table G10.



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E Table E1 Individual Raw Water Source Statistics (Copy as needed)

If you have more than four sources or withdrawal points, please use additional Table E1 from the MassDEP web page or make photo-copies of this page.

Please provide data in the adjacent table for all of your sources (Active, Emergency, Inactive, or Abandoned).

Source Name				
PWS Source ID #				
Source Watershed				
Source Availability* (check one)	<input type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Emergency <input type="checkbox"/> Abandoned	<input type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Emergency <input type="checkbox"/> Abandoned	<input type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Emergency <input type="checkbox"/> Abandoned	<input type="checkbox"/> Active <input type="checkbox"/> Inactive <input type="checkbox"/> Emergency <input type="checkbox"/> Abandoned
Date of Meter Installation	(mm/dd/yyyy) OR <input type="checkbox"/> no meter	(mm/dd/yyyy) OR <input type="checkbox"/> no meter	(mm/dd/yyyy) OR <input type="checkbox"/> no meter	(mm/dd/yyyy) OR <input type="checkbox"/> no meter
Date Last Meter Calibration for this Source	(mm/dd/yyyy)	(mm/dd/yyyy)	(mm/dd/yyyy)	(mm/dd/yyyy)
Withdrawal Units (check one)	<input type="checkbox"/> : GAL or <input type="checkbox"/> MG	<input type="checkbox"/> : GAL or <input type="checkbox"/> MG	<input type="checkbox"/> : GAL or <input type="checkbox"/> MG	<input type="checkbox"/> : GAL or <input type="checkbox"/> MG
Type of water metered for source	Raw Water (may be the same volume as finished water if no treatment losses occur). Treatment plant losses are accounted for in Table D3.			
January				
February				
March				
April				
May				
June				
July				
August				
September				
October				
November				
December				
Total Amount Pumped				
Total # of Days Pumped **				
Max. Single Day Pumped Volume				
Date Max. Amount Pumped	(mm/dd/yyyy)	(mm/dd/yyyy)	(mm/dd/yyyy)	(mm/dd/yyyy)

* The source availability codes are the same as last year's. The definitions are listed in the ASR instructions available at MassDEP's website.

** Total number of days that a source was used during the year.



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F Watershed/Ground Water Inspection Report

(copy as needed for additional zones and/or additional sources within each zone)

1. Is this a Zone II or IWPA (for groundwater sources) or a watershed (for surface water sources)?

☐ **Zone II** ☐ **IWPA** (Interim Wellhead Protection Area) ☐ **Watershed** (surface water)

Provide the names and MassDEP Source IDs of the withdrawal points in this Zone II, IWPA, or watershed.

Source ID:	Source Name:
Source ID:	Source Name:
Source ID:	Source Name:
Source ID:	Source Name:
Source ID:	Source Name:

2. If this is for groundwater sources, is the Zone II or IWPA protected by any of the following measures?

<input type="checkbox"/> Zoning bylaw or ordinance	Year Adopted or Amended:
<input type="checkbox"/> General bylaw or ordinance	Year Adopted or Amended:
<input type="checkbox"/> Board of Health regulation	Year Adopted or Amended:
<input type="checkbox"/> Not Protected	

3. Did your inspections during the last year of the Zone II, IWPA or watershed identify any new land uses or activities that pose a threat to drinking water quality? ☐ No ☐ Yes If YES, please describe:

4. Did your inspection during the last year identify any violations of state or local land use controls? ☐ No ☐ Yes

If YES, please describe the violation(s), reporting and resolutions:

If YES, did you report those violations to the municipality (i.e. building inspector, board of health, planning board)? ☐ No ☐ Yes

5. If this is a groundwater source, do you own the entire Zone I land for these well(s)? ☐ Yes ☐ No

If NO, provide the name(s) of Well(s) for which you do not own the entire Zone I:

Source ID:	Source Name:
Source ID:	Source Name:
Source ID:	Source Name:

If there are any changes to your Zone I a map showing the changes must be attached to this report. A map template can be found on our web page at <http://www.mass.gov/dep/water/approvals/dwsforms.htm> under the heading of "Statistical Reporting".



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G Water Management Act Annual Report

TO BE COMPLETED BY ALL PUBLIC WATER SUPPLIERS USING 100,000 GALLONS PER DAY OR MORE. PWSs who pump water under a WMA registration and/or permit must also complete specific questions on this form as noted. Instructions for completing Section G are included in the ASR Instructions available at MassDEP's website. If you have any questions concerning Section G, please contact Richard Friend with the WMA Program at 617-654-6522.

1. General Information

Table G1 Permit & Registration Information (To be completed by WMA registrants and permittees only)

Watershed	Registration Number	Permit Number

Table G2 Permit Special Conditions (To be completed by WMA permittees only)

Review your WMA permit. List any Special Conditions of your WMA permit that require submission of an annual report to MassDEP. If a required report was submitted earlier in the year, please give the date of submission. If the required report is being submitted with this ASR, please note that in the following table.

WMA Permit Special Conditions Requiring Annual Report to MassDEP	Report Attached (Yes or No)	Date submitted to MassDEP
1.		
2.		
3.		
4.		
5.		

Table G3 Leak Detection Survey Summary

Most suppliers with their own sources will complete the "Distribution System Water Mains" column only. Suppliers who receive their water from other systems or regional water suppliers need to complete the "Source(s) of Supply Transmission Water Main" column as well.

	Distribution System Water Mains	Source(s) of Supply Transmission Water Main
Total miles of water mains		
Miles surveyed this year		
Number of leaks found		
Estimated volume lost (MG) if a reliable estimate can be made		
Number of repairs		

Date of last full leak detection survey: _____



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G Water Management Act Annual Report (cont.)

Table G4 Water Conservation - Summer Limits on Withdrawals

(copy as necessary for each community served)

- If you hold a WMA Permit, does your Permit have a Special Condition specifying Summer Limits on Withdrawals? ☐ No ☐ Yes ☐ Do not hold a WMA permit
 If YES, specify what type of trigger:
☐ Calendar Triggered Restrictions (e.g. May 1 – Sept 30)
☐ Streamflow Triggered Restrictions (per USGS stream gage data)
☐ Other Permit Triggered Restriction: (e.g. emergency/water quality, reservoir/groundwater levels)
 Specify:
- Does the community served by the PWS have a bylaw, ordinance, rule or regulation that can be used to implement outside water use restrictions? ☐ Yes ☐ No
 - If YES, are these restrictions ☐ Voluntary ☐ Mandatory ☐ Both
 - If YES, were water restrictions implemented this year? ☐ Yes ☐ No
 Date(s) Implemented:
 - If YES, did you notify MassDEP of water restrictions? ☐ Yes ☐ No
- What type of water use restrictions were implemented? Check all that are applicable.
☐ Voluntary ☐ Mandatory
 Daily: ☐ 1 day/week ☐ 2 days/week ☐ Odd/even days ☐ Other (specify): _____
 Hourly: ☐ 5 pm to 9 am ☐ Other Hourly (specify): _____
☐ Hand-Held watering only ☐ Ban on Outside Use
☐ Other (specify):

2. Water Withdrawal by Watershed (To be completed by WMA registrants and permittees only)

Calculation of Daily Average Withdrawal: Use Table G5 to document 2007 withdrawal volumes by watershed and Table G6 to compare 2007 actual withdrawals to the withdrawals authorized under your WMA registrations and permits. The total withdrawals for each source and their respective watershed are reported in Table E1. Enter the tally for each watershed in the table below. Complete this for each watershed in which you have withdrawal points. For example, a PWS with supplies in the Charles River Watershed, the Taunton River Watershed, and the Neponset River Watershed will have three numbers, whereas a PWS with all withdrawal points in the Hudson River Basin will complete only one watershed.

Table G5 Average Daily Withdrawal by Watershed

Massachusetts Watershed	Total Actual Raw Withdrawal Volume (MGY) (from Table E1)	/ 365 =	Watershed Average Daily Withdrawal (MGD)
1.		/ 365 =	
2.		/ 365 =	
3.		/ 365 =	

Watershed is one of the 27 Massachusetts Major watersheds. Refer to permits and registrations for watershed(s).

To calculate daily average withdrawals, divide the total withdrawal volume for each watershed by 365 days in the year.



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Table G6 – WMA Authorized Withdrawal vs. 2007 Actual Withdrawal

(To be completed by both WMA registrants and permittees)

To calculate the difference between WMA authorized withdrawals and 2007 use, enter the registered and permitted withdrawal volumes in MGD for each watershed. Add registered and permitted volumes to get the total WMA authorized withdrawal volume for each watershed. To calculate the difference between the WMA authorized volume and the actual volume of raw water pumped, subtract the daily average withdrawal (Table G5, last column) from the total WMA authorized volume for each watershed.

Massachusetts Watershed	Registered Volume (MGD)	+	Permitted Volume (MGD)	=	WMA Auth. Withdrawal Volume (MGD)	-	Daily Avg. Raw Water Use (MGD) (from Table G5 above)	=	Difference* (MGD)
1.		+		=		-		=	
2.		+		=		-		=	
3.		+		=		-		=	

* A positive (+) value indicates that withdrawals are within the WMA authorized volume. A negative (-) value indicates that withdrawals exceed the WMA authorized volume. If a PWS exceeds its WMA authorized volume by 0.1 MGD or more, a permit or permit amendment may be required. Contact Richard Friend, WMA staff, at (617) 654-6522.

3. Residential Gallons per Capita Day (RGPCD)

Residential Gallons Per Capita Day (RGPCD) water use is calculated by dividing the total annual residential volume by 365 days in the year, and then dividing that number by the residential population served by your PWS. The method used to determine RGPCD depends on whether your PWS serves an entire municipality or serves a portion of a municipality or municipalities. See ASR Instructions for further explanation.

RGPCD Method 1 – for Fully served communities or if population served can be accurately determined: If the PWS serves an entire municipality, then use the most recent local or Federal census number for the total residential population. **Partially served communities** can use the most recent local annual census or the most recent Federal census if private well users and those served by other PWS systems are subtracted out and the calculations are attached to this ASR. **Communities with high seasonal fluctuations** can pro-rate the population for the duration of the influx (see ASR Instructions for further detail and examples).

Table G7 RGPCD Method 1 - Residential Population Served is Accurately Known

Total Residential Use (MGY) (from Table D6)*	/ 365	/ Total Residential Population Served	X 1,000,000 =	RGPCD
	/ 365	/	X 1,000,000 =	

*Refer to ASR Instructions for guidance on whether and how to include Residential Institutional water use and population in your RGPCD calculation.

(gallons per person per day)

For fully served communities, provide the type (Federal or Local) and date of census used:	
For partially served communities, briefly describe how the value for population served was ascertained (attach calculations to the ASR):	
For communities with <u>high seasonal fluctuation</u> , briefly describe how population was determined. Attach calculations and/or explanation to ASR.	



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RGPCD Method 2 - for Partially Served Communities where population served must be estimated

If the PWS serves a portion of one or more municipalities, then multiply the number of households by the “**Average Household Size**” (not Average Family Size) found in the demographic profile for each Massachusetts community provided through the Department of Housing and Community Development to determine the population served. To obtain the Average Household Size, go to <http://www.mass.gov/dhcd/Temp/03/HsMgData/default.htm> and click on US Census Population and Housing. In the “Fast Access” box, type in your community name(s) and select Massachusetts. Go to “**Average Household Size**” (not Average Family Size) and use that number to calculate Population Served. See ASR Instructions for further details and examples.

Table G8 RGPCD Method 2 Step 1 - Estimated Number of Households Served by the PWS

Use Table G8 to estimate the number of households served by the PWS from the number of service connections. For a community of only single-family homes, the number of households will equal the number of service connections. If a partially served community has a significant number of residential service connections to multi-unit dwellings such as apartment buildings, multi-family homes, trailer parks, etc. the PWS may choose to determine the number of households served by each water service connection in order to estimate the population served. See ASR Instructions for further detail and examples. (You are free to create your own Table G8 worksheet and attach to the ASR.)

Type of Residential Service Connection (single-family, two-family, etc.)	Total # of service connections to each Type		# of households per service connection (1 for single family, 2 for two-family, etc.)		# of households
Single- Family:		x	1	=	
Two-Family:		x	2	=	
Three Family:		x	3	=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
Total number of households served:					

(Enter in Table G9)

Table G9 RGPCD Method 2 Step 2 - RGPCD Based on Number of Households

First calculate population served:

Total # of Households (from Table G8)	x	Average Household Size from DHCD website	=	Population Served
	x		=	

Next use the Population Served value to calculate RGPCD:

Total Residential Use (MGY) (from Table D6)*	/365	/ Population Served (from above)	X 1,000,000 =	RGPCD
	/365	/	X 1,000,000 =	

*Refer to ASR Instructions for guidance on whether and how to include Residential Institutional water use and population in your RGPCD calculation

(gallons/person/day)



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4. Unaccounted for Water

Table G10 Confidently Estimated Municipal Uses To qualify as confidently estimated municipal use calculations/documentation for each estimated use must be attached to this ASR. If no documentation is provided, MassDEP will count the volumes as unaccounted for water. See ASR Instructions and the following page for more detail. **Leak detection volumes are not counted as a confidently estimated municipal use.** Optional Excel spreadsheets for calculating confidently estimated use can be found at the MassDEP website at <http://www.mass.gov/dep/water/approvals/dwsforms.htm>.

Confidently Estimated Municipal Use	Estimated million gallons
Fire protection & training	
Hydrant/water main flushing	+
Flow testing	+
Bleeders/ Blow offs	+
Tank overflow & drainage	+
Sewer & stormwater system flushing	+
Street cleaning	+
Source meter calibration adjustments	+
Major water main breaks (not leak detection)	+
Total Confidently Estimated Municipal Use	=

Table G11 Unaccounted for Water

	Million Gallons/Year (MGY)	% of Total Water Available for Distribution
Total Finished Water Available for Distribution (Total Net Finished Water from Table D1)		100%
Total Metered Use (System Total Metered Use from Table D6)	-	- %
Total Confidently Estimated Municipal Use (Total from Table G10)	-	- %
Unaccounted for Water (UAW)	=	= %

Table G12 Sources of Unaccounted for Water

Use this table to estimate volumes of your unaccounted for water

Known or Suspected Source of Unaccounted for Water	Estimated Volume (MGY)
Leak Detection	
Water Theft	
Meter Malfunction/mis-registration	
Other (specify):	
Other (specify):	
Other (specify):	
Total:	



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Guidelines for Calculating Confidently Estimated Municipal Uses

Optional Excel spreadsheets for calculating confidently estimated use can be found at MassDEP website at <http://www.mass.gov/dep/water/approvals/dwsforms.htm>.

Fire Protection and Training

This volume can be taken from data provided in writing by the local Fire Department or the volumes can be obtained from meters on booster pumps.

Hydrant Flushing and System Flow Test Volumes

- Volumes used during annual or biannual flushing of the distribution network can be calculated by multiplying the number of hydrants times the average volume flowed times the number of times flushed. All annual hydrant and system flow test volume estimates should be presented in table form.
- Flow testing volumes can be calculated using completed Insurance Services Organization (ISO) flow sheets that provide hydrant locations, street addresses and flow rates. Multiply the flow rate for each test x the flushing time, rounded to 5-minute increments. All system flow test volume estimates should be presented in table form.
- Volumes of water used to fill new or replaced water mains may be calculated and reported in a tabular form, complete with street, project number or other identifying information. Multiply the flow rate times the flushing time, rounded to the nearest 5 minutes. All system flow test volume estimates should be presented in table form.

Bleeders

- All bleeders should be metered whenever possible with meters set in a meter pit. Regular meter reading should be taken to determine the annual volumes of water that are run to waste.
- For bleeders that cannot be metered, volumes can be calculated by using a low volume pilot gauge to determine the gallons per minute that run to waste and extrapolating an annual volume.

Storage Tank Overflows for Quality Corrections

When a storage tank is overflowed for water quality correction, then the overflow amount can be calculated using daily storage tank readings or flow out of the overflow piping can be calculated using 50% of the flow rate from pumps that are on in the system at the time of the overflow. The duration of the overflow is determined through observation and by when pumps are shut off or when instrumentation controls are adjusted to automatically shut off pumping systems.

Major Water Main Breaks

Leakage from leak detection surveys or other discovered long-term leaks are considered to be unaccounted-for water. However, very large individual short-term water main breaks can be discounted on a case-by-case basis. Document date found, date repaired, cause (if known) and estimated water loss. MassDEP will review these submittals to determine eligibility.

Street Cleaning

Water used by street cleaning sweepers can be calculated by multiplying the volume of the street sweeper tank(s) times the number of times filled. Logs should be kept on file

Stormwater System Flushing

Water used for stormwater flushing or in sewer main type work can be confidently estimated through a metered volume using a hydrant meter/construction-type meter.

Other

Other volumes that a PWS wants to include as confidently estimated water uses, must be described and calculations provided. MassDEP will review these submittals and determine eligibility.



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Attachment 1 - Emergency Response Plan Directory

1 Local Authorities

Please complete all items of this form, return 2 copies to the MassDEP Drinking Water Program's Boston Office with your Annual Statistical Report, and keep a copy in an accessible location along with the rest of your emergency response information. Please keep this information up-to-date.

a. Fire Department:

Name	Title	Phone
Fax	Email	

b. Police Department:

Name	Title	Phone
Fax	Email	

c. Health Department:

Name	Title	Phone
Fax	Email	

d. Town Official(s)/Elected Official(s):

Name	Title	Phone
Fax	Email	
Name	Title	Phone
Fax	Email	
Name	Title	Phone
Fax	Email	
Name	Title	Phone
Fax	Email	

2 Water Supply Responsible Authorities

a. Superintendent:

Name	Work Phone	Home Phone
Fax	Email	

b. Assistant Superintendent:

Name	Work Phone	Home Phone
Fax	Email	



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2 Water Supply Responsible Authorities (cont.)

c. Primary Certified Operator:

Name	Work Phone	Home Phone
Fax	Email	

d. Secondary Certified Operator:

Name	Work Phone	Home Phone
Fax	Email	

3 Local News Media

a. Newspaper(s):

Name	Phone
Fax	Email
Name	Phone
Fax	Email

b. Radio Station(s):

Name	Phone
Fax	Email
Name	Phone
Fax	Email

c. Television Station(s):

Name	Phone
Fax	Email
Name	Phone
Fax	Email

d. Other Media (e.g. Short-wave Radio Operator(s))

Name	Phone
Fax	Email
Name	Phone
Fax	Email



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Name:

City/Town:

4 Contact or Notify

Examples
of Special
Users are
hospitals,
nursing
homes, and
prisons.

a. Specials User(s):

Name	Email	Phone
Address		Fax

Name	Email	Phone
Address		Fax

b. Waterworks Contractor(s):

Name	Email	Phone
Address		Fax

Name	Email	Phone
Address		Fax

c. Hazardous/Toxic Clean-up Contractor(s):

Name	Email	Phone
Address		Fax

Name	Email	Phone
Address		Fax

d. Replacement (rental/purchase)/Repair Supplier(s):

Name	Email	Phone
Address		Fax

Name	Email	Phone
Address		Fax

5 Owner/Owner's Agent**a. Trust, Partnership, Corporation:**

Name of Trust, Partnership, Corporation		
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Name of Primary Trustee, President, Owner	Email	Phone
Address		Fax

Name of Management Company	Contact Person	Phone
Address		Fax